

**METAL (SILICON) OXIDE/CARBON COMPOSITE
PARTICLES**

ABSTRACT OF THE DISCLOSURE

A collection of nanoscale particles are a composite of carbon and metal oxide or silicon oxide. The composite particles have an average diameter from about 5 nm to about 1000 nm, and can be produced by laser pyrolysis. The laser pyrolysis involves the formation of a molecular stream including a metal precursor, an infrared absorber, an oxidizing agent and a carbon precursor. The pyrolysis is driven by heat absorbed from a laser beam. Furthermore, nanoparticles including titanium oxide with a rutile crystal structure have been produced.

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